AMENDMENTS TO THE SPECIFICATION:

Page 1, please amend the paragraph beginning at line 30 as follows:

The use of a membrane for separation is suggested as a method consuming lower energy~~, see for example references 1 and 2 mentioned below~~.

Page 4, please amend the paragraph beginning at line 23 as follows:

The Hofinann reaction was suggested as a quick and convenient method of preparing PV Am from P AA ~~by Tanaka et al. (see references 5-7)~~. ~~After examination and extent investigation of Hofmann reaction, Archari et al. (see reference 4)~~ It has been proposed that PV Am could be prepared from P AA by the Hofmann reaction with a high degree of amination (meaning more than 90 %) keeping the extent of side reactions to a low level by careful control of reaction parameters. The amino group content in PV Am was measured to be over 90 mole %. The obtained product was a hygroscopic white solid. The final polymer was dissolved in water to a suitable concentration (5-10%) for membrane casting. The average molecular weight ofPV Am was determined by the following relation: $[\eta]/(dL \cdot g^{-1}) = 6.2 \cdot 10^{-3} M_{\eta}^{0.88}$ where [η] is the intrinsic viscosity in 0.01 M aqueous NaO/O.1 M aqueous NaCI water at 25°C ~~(see references 4 and 7)~~.

Page 9, please amend the paragraph beginning at line 14 as follows:

Without being bound by the following theory, we believe that the use of a fluoride ion may be of benefit of two reasons. The possible role of fluoride ions in facilitated transport in a swollen membrane, is illustrated in Figure 5. The water molecule becomes more basic than pure bulk water when it is hydrogen bonded to a fluoride ion, and the fluoride is creating highly polar sites in the membrane. The basic water molecule has an increased affinity for CO2 that leads to increased concentration of HCO_3- in the membrane and a consecutively increased transport of CO_2. The permeation of gases like CH_4, N_2, and O_2 will on the other hand be blocked by the highly polar sites in the membrane because of low solubility of these nonpolar gases, and an increased selectivity may arise. The characteristics of a facilitated or carrier-mediated transport are the occurrence of a reversible chemical reaction or complexation process in combination with a diffusion process. This implies that either the diffusion or the reaction is rate limiting: For the membrane in the current study, the diffusion is assumed to be rate limiting. The total flux of a permeate A (here CO_2) will thus be the sum of both the Fickian diffusion and the carrier-mediated diffusion. The nonpolar gases in the gas mixture will exclusively be transported through the membrane by Fickian diffusion. It can be shown that the driving force over the membrane will be the

difference in partial pressures for the Fickian diffusion, and that transport also will depend on the solubility coefficient for the gas in the polymer. For the carrier-mediated transport, the driving force will be the concentration difference of the complex AC (complex compound) over the membrane. The permeation of the nonpolar gases may additionally be hindered because of the highly polar sites in the membrane caused by the presence of fluoride ions. This should then lead to an increased permeance of CO_2 compared to gases like CH_4, N_2, and O_2, giving high selectivities in favor of CO_2.